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(54) ETCHING METHOD FOR SACRIFICE LAYER

(57) Abstract:

PURPOSE: To remove the possibility of a structure adhering to a substrate by gas phase-etching a sacrifice layer in a gas containing hydrogen fluoride gas and a very small amount of water vapor.

CONSTITUTION: A polysilicon structural layer 13 is provided on a sacrifice layer 12 and etched into a required form. The sacrifice layer 12 is removed by gas phase-etching and a beam is released, rinsed and thereafter dried into a cantilever. In said manufacture,

the sacrifice layer 12 is gas phase-etched e.g. by using 95% nitrogen gas, 4.99% hydrogen fluoride gas and 0.01% water vapor. After etching, a silicon surface is terminated by fluorine atoms and therefore is very inactive and stable even in a heat treatment at 900°C. Thus, it is possible to prevent the adhesion of a structure due to the surface tension of a liquid.

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